

Improving QED-Tutrix by automatically generating problems and proofs, and helping students with related problems.

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Abstract

In this paper, we present the future paths to improve our software QED-Tutrix, with the main idea being to be able to help a student that is stuck on a geometry problem by giving him another, related, problem. The main issue to implement this approach is the necessity of a vast bank of problems, combined with the lengthiness of the problem-writing process, especially the searching and encoding of all the possible proofs. We therefore suggest two approaches to automatically write proofs, and one to automatically write the whole problem. Finally, we present a preliminary analysis of the didactical goals and stakes of working with related problems.